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ABSTRACT

This paper presents background information on "why" some students may not be responsive to the traditional lecture/discussion classroom format. It offers a model, based on a "high-tech," state-of-the-art classroom facility, for revitalizing lectures. The author recounts her own classroom experiences as she attempted to integrate technology into her lectures. Despite initial facility inadequacies, the interactive/video classroom was constructed. With video, computer, and graphics display options in the classroom, the author was able to create a learning environment that was consistently intriguing, combine visual and interactive experiences with traditional lecture/discussion methods, develop a series of activities that unified learning, and use a variety of approaches that helped avoid boredom and tap into the various learning styles of students. Student responses to the technological integration have been extremely positive, with an increase in the number of course sections. Disadvantages of this teaching method include lack of resources, necessity for extended training, and lack of flexibility of teaching space. (Contains 10 references.) (YKH)

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ED 437 123

USING TECHNOLOGY TO REVITALIZE THE LECTURE:

A MODEL FOR THE FUTURE

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Mid-Career Fellowship Program

Marilyn Gilroy

Spring 1998

In: Issues of Education at Community Colleges: Essays by Fellows in the Mid-Career Fellowship Program at Princeton University.

JC 980313

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SUMMARY

Many faculty teaching introductory level courses in the community college are struggling to effectively deliver the traditional lecture, finding it almost impossible to maintain students' attention for more than 20 minutes. This paper presents background on why some students may be less responsive to traditional lecture/discussion and offers one model, based on a "high tech" state-of-the-art classroom facility, for revitalizing the lecture. A summary of advantages and disadvantages of this approach is presented at the end of the paper.

INTRODUCTION

"For the first time in my teaching career, I'm having discipline problems. They [students] just don't want to pay attention."

"Our students won't read. They complain if I ask them to read anything extra and even look at me with disgust when I tell them they are responsible for reading assigned chapters in the text."

"Many of my students don't care about education or ideas. They are so unfocused."

"I work hard on my lecture content and delivery but I often feel like the class is dragging."

"It's tough to keep going when you see students shuffling books and coats during class and they seem desperate to get out."

These are actual quotes from my colleagues, derived from informal conversations and faculty development seminars. They are not the words of chronic complainers or burned out educators-- these comments come from dedicated professors who are still excited about their subject matter and the teaching profession. Their sentiments are often echoed by faculty members from all disciplines who voice frustration about using the conventional lecture/discussion mode in the classroom. They are questioning a mode that has been the core of their own college education and of their teaching. They are wondering if they have become less effective or if their students are less dedicated and motivated.

In truth, there are a small number of professors who are constant complainers and see themselves as martyrs in the hopeless cause of educating inferior or poorly prepared community college students.

But the majority of community college faculty are struggling to face reality -that there has been a fundamental shift in the attitudes and attention spans of our students. They are challenged and perplexed about how to respond to the noticeable differences in today's students and have worked hard to adjust their teaching methods to accommodate the changes. And the basic tenent of college teaching- the lecture- is the focus of the transformation.

Based on the accounts from faculty whom I have interviewed from the humanities, social sciences, business and mathematics, it is getting harder and harder to deliver content in the form

of the traditional lecture- they just can't hold the students' attention. All of them reported that after about 30 minutes, they were faced with varying degrees of yawning, sighing, clock-watching, doodling, talking, or paper shuffling leading to a feeling that they had "lost" the students. The exception to this was one faculty member who taught small, upper level honors courses which often engaged in lively discussion and produced excellent research papers.

College teachers have been lecturing, that is, synthesizing, summarizing, reporting, and illuminating on concepts, ideas, and events since the dawn of higher education. The lecture has survived centuries of educational reforms, new modes and "delivery systems," and it will probably survive the current "technological tornado."

However, my own experience plus the research I have done over the past year lead me to believe that many students are not receptive to lectures and that technology may provide one possible key for revitalizing the lecture.

Why Are Today's Students Different?

If today's students seem less responsive to traditional lectures than their predecessors, it may have something to do with the fact that they have grown up and been educated in a world where the screen is a fundamental part of their daily routines. They write on a computer, get most of their news and information from TV, and entertain themselves for hours with video games.

It is well documented that our students have watched more television than any other previous generation. In fact, by the age of 10, most of today's students had already spent more time in front of a television than they will ever spend in college classrooms getting a degree, even if they go on to a Ph.D.

It is also documented that individuals under 30 read far less on a daily basis than their counterparts of 20 years ago. This has been a cause for alarm on the part of newspaper and magazine publishers who have watched their circulations decline every year. Most publications

have forged partnerships with cable television or mounted websites to ensure some hope of building the kind of loyal following that once came from print readers and subscribers.

Add to this media mix the fact that the remote control and computer mouse have made it possible for our students to surf through 80 television channels and click through computer programs at a frenetic pace. Knowing this, the producers of television commercials, music videos, films, and broadcast news are all serving up images and words at a much faster pace than 25 years ago.

Experts say that while this visual glut has given students the ability to process rapid and discontinuous images at an impressive rate, it has also diminished their attention spans and the ability to concentrate. They have been dubbed as "visual grazers" with little patience for the slower tempo of more traditional cultural pastimes such as classical music and theater.

Is it any wonder that the human voice of a faculty member talking at normal speed for 20- 30 minutes fails to holds students' attention?

Bridging the gap

Rather than ignore this phenomena and noting the attention deficits of my own students during lecture/discussion, I began to wonder **... if technology is central to so many aspects of contemporary life, should it not be central to the learning process? Don't I owe it to learners who will be functioning in a world dominated by technology to use these tools to teach?**

In 1993, I started making significant changes in my teaching style in two sections of an introductory level communication course. I began relying heavily on visuals, such as short 3-8 minute clips from television programs I had recently taped, or pictures and charts from newspapers and magazines to supplement lectures and stimulate discussions. At the same time, the Internet was emerging with all of its ramifications for research and entertainment. Noting

how rapidly college students responded to this new media, I asked for and received access to an America On-Line account and computer for use in my classroom demonstrations.

To integrate visuals from these various sources on a regular basis was not easy. At Bergen Community College, the faculty member must bring the TV and VCR to the classroom on a rolling cart which must be transported through long hallways and several building levels. The quality of the monitors and the sound is often poor. The overhead transparency equipment does not provide the kind of clear, colorful image needed from print materials. The computer with access to America On-Line and projection capabilities was housed in a different classroom with a telephone line. Another classroom contained the interactive video technology. In the course of the semester I had to make visits to four different classrooms. This was not an easy feat of scheduling when dealing with multiple sections of a low level course enrolling 35 -40 students in each section.

But I continued to use visuals to enhance my lectures because I saw the reactions of students. They were more enthusiastic, participated more in discussion, and benefited from the examples that were on the screen. Although I had always revised and updated my lectures and tried to provide interesting material in a lively manner, **the fact was that nothing packed the punch of the visual!**

So I spent much of 1994 trying to persuade the administration that I was having difficulty using this approach given the limitations of the college's conventional classrooms. Enrollment for the course started to increase and a few more sections were added. This made me increasingly desperate for a designated classroom with the technology to support the teaching and learning that had evolved.

THE INTERACTIVE/VIDEO CLASSROOM: One Model for Using Technology to Enhance Learning

Fortunately the timing of my request for such a facility coincided with a statewide push toward technology and distance learning and funding became available via the New Jersey Intercampus Network.

Within 18 months, I was up and running in a classroom (designated C107) that remains state-of- the-art. Although originally designed and still used for distance learning, it was also equipped with everything that I had requested.

Here is a partial list of components:

TV monitor- 40" large screen monitor used for viewing local and remote sources
Videotape playback units
Videodisk players
Quadraphonic Sound system
Cable television- access to 85 incoming cable channels
Robotic Cameras- remote control with ability to follow instructor and zoom and focus on students
Student desktop microphones
Graphic Camera-Elmo- allows full-color viewing of flat copy or objects with zoom and focus capability
Computer- Pentium processor with multi-media capabilities and Internet access plus a variety of software
Telephone/fax/ printer unit with AT&T handset telephone- can be used for teleconferencing. Callers can seen over monitor and heard over speakers.
Routing switchers, interfaces, mixing units, modulators, and cable wiring.

All images, whether videotape, graphic, or computer, appear on a full size monitor and the screen has quad viewing windows, meaning it displays four video screens in one thus eliminating any need for multiple monitors.

All components interact simultaneously with one another and are controlled from one console (See Appendix A) making it possible to switch from Internet to video to overhead with the push of a button. Although the console may look daunting, after a while it becomes as familiar as any other keyboard or remote control device.

The student seating and tables for 40 are very comfortable. The room is on an independent climate control mechanism which enables me to control the heat and air conditioning temperature.

The cost of all of this was approximately $250,000 not including the labor for installation which was done by our own technicians with the help of AT&T and Bell Atlantic. The facility was built adjacent to the offices of the technical support staff who maintain it. For the first year, they checked with me before each class to make sure that every component was operational. Currently, the technology is very reliable and I merely pick up the phone and call for help if a problem occurs.

We have also limited access to the facility for use by 3-4 instructors who are trained to use the equipment.

During the past 2 1/2 years, using this technology has transformed my lectures/discussions. Specifically, it has enabled me to:

*Create a learning environment that is consistently intriguing,

*Combine visual and interactive experiences with traditional lecture/discussion methods

*Develop a series of activities that unifies learning

*Use a variety of approaches that help avoid boredom and may tap into the various learning styles of our students.

Using the video, computer, and graphics display options in the classroom, I have been able to reach students who learn more effectively through active methods, relying in part on visual and sensory input rather than the verbal and passive delivery style of traditional lectures. The existence of these various student learning styles has been documented by results of Kolb's Learning Style Inventory and Solomon's Inventory of Learning Styles administered in introductory level courses at various colleges and universities.

By integrating technology into the course, I have also enjoyed the satisfaction of providing students with critical thinking experiences that are specific to the kinds of media that proliferate our culture. I believe this is one way to fulfill part of our college's mission statement of "preparing citizens for responsible participation in their society." My students are able to see, hear, experience and analyze the impact of the media that is part of their daily lives because I am using it to enrich the topics covered in the text.

This mode of teaching does not in any way replace the text. Quite often, I use the text and project some of the illustrations that the author has chosen. I magnify and zoom in on certain images as a means of emphasis and reinforcement. However, I also use the classroom's marker board to summarize key points. Since writing on the board is now the exception rather than the rule, my students give it special attention.

The visual is a very strong ally in my teaching. For example, in teaching the history of the press, I am able to project newspaper copy from colonial days through all of the important periods of journalism.

And my students get more involved in the process. Their self-consciousness decreases in response to the interactive nature of the technology. I encourage students to come to the front of the room and use the technology to facilitate class discussions with me.

However, all of this is not a panacea. Like many faculty who use technology, I have to do more planning, not less. I have to make sure that I combine the visuals with key questions, both open-ended and closed. In some ways it takes more work to arrange a lecture into a coherent and rational pattern because there is so much wizardry available. Being the first on campus to have these capabilities, I have felt more responsibility to do it right. I am still struggling to create tests and writing assignments that assess its effectiveness.

We recently surveyed the students who had been taught in this facility for the last two years. The responses were overwhelmingly positive. Many of them said that the technology had sparked their interest and that the teaching was excellent. The number of course sections has

increased from 3 to 6. The challenge remains to offer documented, irrefutable proof that more learning is taking place.

In 1996, the college began construction on a new wing of classrooms. The interactive video classroom was used as a model for layout and technology standards. Although these classrooms do not have all of the C107 components, they are equipped with teaching stations that contain video/computer and graphics presentation capabilities. The classrooms are used mostly by faculty from business, social sciences, and nursing, but they are available to any faculty who want to incorporate technology into their course.

Anyone contemplating using this highly technological approach to teaching may wish to keep in mind the following:

Disadvantages and possible obstacles

* Some institutions do not have the monetary or human resources to offer such a teaching facility

* Extended training and usage is needed to understand and explore the possibilities of this technology.

*Technology may not be appropriate for all disciplines, faculty, or students.

*Teaching space is not flexible. Because of wiring and equipment placement, tables and chairs cannot be moved for group activities or roundtable discussions.

Possible Advantages

*Gives instructor and students immediate access to the world beyond the classroom

*Enables instructor to provide information that is up-to-date, based on current events and images, thus stressing relevancy of course.

*Helps instructor and student maintain enthusiasm for subject matter

* Provides additional models for analysis and questions

* Engages students listening, thinking, and participating

Final thoughts

Sometimes I am nagged by the feeling that I am teaching on the set of "Star Wars" rather than a classroom dedicated to teaching and learning. I recognize that I have become very dependent on this technology to teach certain courses. For me, it is no longer an option, it is a necessity - given the nature of my students and the course material that I teach.

Occasionally I have been asked to give demonstrations to colleagues and visitors on a one-to-one basis and as part of workshops. The administration has used this classroom as a showpiece. Several times during the year, potential donors to the college foundation visit C107 while I am teaching so the college can make its pitch for more money from the private sector. I generally don't mind because I am proud of my work and grateful for the support I have received.

A few of my faculty colleagues have made it clear that they feel my approach to teaching is not as scholarly or seriously academic as theirs. They smugly suggest that mine is a frivolous, faddish approach catering more to entertainment rather than educational needs.

Some of my colleagues wear disdain for technology like a badge of honor and that is their right. Many are gifted teachers without any help from technology and it would be wrong to suggest that they need to change their methodology. I have interviewed excellent professors who are reinventing lectures in their own way by incorporating demonstrations, oral and written exercises, and group work.

However, for those who are searching for ways to understand how the new technologies may converge to redesign and enhance the lecture, I offer the model of this state-of-the art facility which has provided valuable learning experiences for both the teacher and the student.

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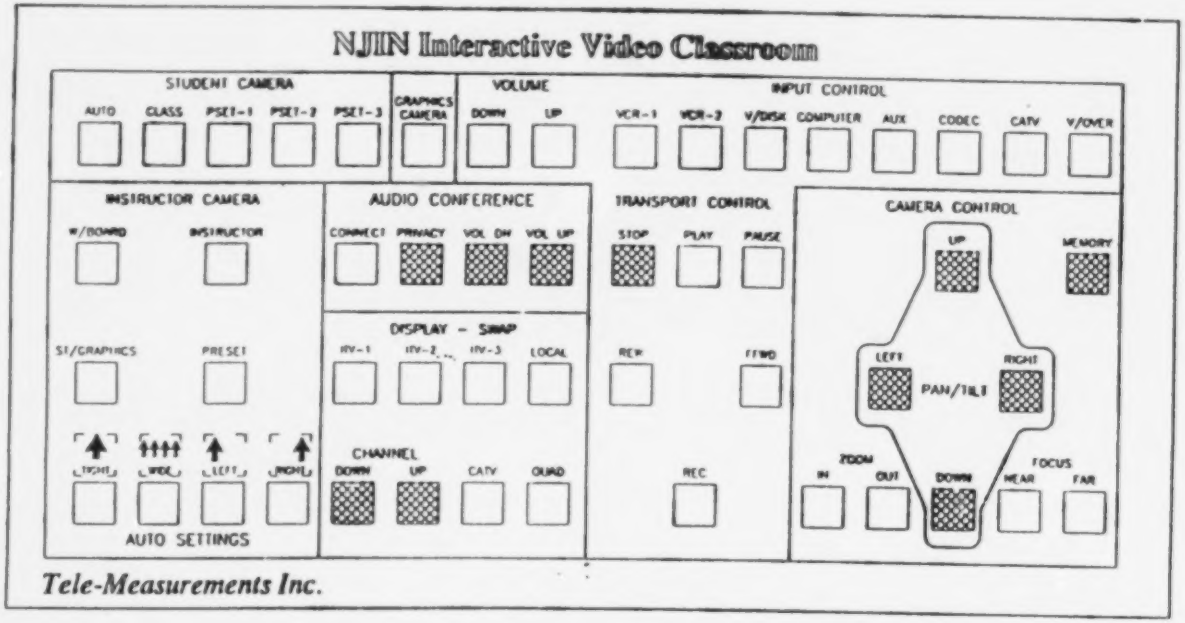
Appendix A

USER VERSION



= MULTI-FUNCTION BUTTON

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MULTI-FUNCTION BUTTONS

BUTTON	WHEN THE ITV1 BUTTON IS LIT	WHEN THE ITV2 BUTTON IS LIT	WHEN THE ITV3 BUTTON IS LIT	WHEN THE CATV BUTTON IN DISPLAY SWAP, IS LIT	WHEN THE VCR-1 BUTTON IS LIT	WHEN THE VCR-2 BUTTON IS LIT	WHEN THE VDP BUTTON IS LIT
ITV1							
ITV2							
ITV3							
CATV (in display swap)							
CHANNEL DOWN	ITV1 CHANNEL DOWN	ITV2 CHANNEL DOWN	ITV3 CHANNEL DOWN	CATV CHANNEL DOWN		40° RF CHANNEL DOWN	
CHANNEL UP	ITV1 CHANNEL UP	ITV2 CHANNEL UP	ITV3 CHANNEL UP	CATV CHANNEL UP		40° RF CHANNEL UP	
PRIVACY	ITV1 POWER CONTROL	ITV2 POWER CONTROL	ITV3 POWER CONTROL	CATV POWER CONTROL		40° POWER CONTROL *	
STOP	ITV1 DISPLAY CONTROL	ITV2 DISPLAY CONTROL	ITV3 DISPLAY CONTROL				
VOICE OVER							
UP					VCR-1 POWER CONTROL	VCR-2 POWER CONTROL	VDP POWER CONTROL
DOWN						40° PIP SOURCE	
LEFT						40° PIP CHANNEL DOWN	
RIGHT						40° PIP CHANNEL UP	
MEMORY						40° PIP CONTROL	
CONFERENCE VOL DN	ITV1 VOLUME DOWN	ITV2 VOLUME DOWN	ITV3 VOLUME DOWN	CATV VOLUME DOWN			
CONFERENCE VOL UP	ITV1 VOLUME UP	ITV2 VOLUME UP	ITV3 VOLUME UP	CATV VOLUME UP			

* ONLY WHEN AUDIO CONFERENCE IS NOT CONNECTED

14

15

REV	DESCRIPTION	DATE

Unless otherwise specified all dimensions are in inch
Do Not Scale Drawing

TELE-MEASUREMEN
Incorporated
ENGINEERING DEPARTME
149 MAIN AVENUE
CLIFTON, NJ, 07104
PHONE: (201) 473-9899
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PROJECT: NJIN VIDEO CLASSROO
DESCRIPTION: CONTROL PANEL MULTI-FUNCTION BUTTC USER VERSION

ENGINEER:	DATE
GEORGE APARICIO	5/17
DRAWN BY:	DATE
GEORGE APARICIO	5/17
CHECKED BY:	DATE
SCALE: NTS	SIZE
JOB NUMBER 4454	SALES ORDI

DRAWING NUMBER
4454-016